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The Mineral Industry of Burma

UNITED STATES DEPARTMENT OF THE INTERIOR

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This publication is a chapter from the current Bureau of Mines Minerals Yearbook, comprising *Volume I, Metals and Minerals; Volume II, Area Reports: Domestic; Volume III, Area Reports: International.* The separate volumes of the Yearbook are sold by the Superintendent of Documents, Washington, D.C. 20402.

The Mineral Industry of Burma

By Gordon L. Kinney[1]

Burma produced at least 30 minerals in commercial amounts during 1987. The most important nonfuel minerals were barite, cement, copper, gem stones, gypsum, lead, silver, steel ingot, tin, tungsten, and zinc. Burma attained world-class production in two minerals. It was 6th in tungsten and 10th in tin output during 1987. Of the minerals, fuels were most important to the Burmese economy. In value, crude oil production was by far the most important mineral, followed by natural gas. An insignificant amount of poor-grade anthracite coal was mined.

A gradual decline in crude production, combined with a steady increase in demand, has caused a serious shortage of fuel, which hindered the fulfillment of economic development plans. State-owned corporations were unable to meet gasoline and diesel requirements; consequently, implementation of many foreign-financed projects was delayed. The transportation sector was affected particularly, and the resultant higher transportation costs contributed to Burma's worsening inflation.[2] Vehicle fuel was rationed and difficult to obtain in outlying areas, even with ration coupons. Fuel prices on the black market were reportedly 15 to 30 times the official Government price. The oil shortage directly affected production of lead, silver, and zinc and hindered the efficiency of other mineral producers as well.

Burma's economic and financial difficulties intensified in fiscal year (FY) 1986[3] and apparently did not improve in early FY 1987. (Complete figures for FY 1987 were not available.) Although the Government reported a growth rate of 3.7% for FY 1986, lower imports of essential industrial raw materials, equipment, and spare parts, and a resultant decline in the output of many industrial products, suggested that the growth rate was considerably lower. Even the 3.7% growth rate figure represented an official acknowledgment that the growth rate declined for the second year in a row, from 5.9% in FY 1984 and 4.3% in FY 1985.

Falling export earnings have forced the Government to draw down foreign reserves, which fell to a record low of $24 million in February 1987.[4] The reduced reserves meant that most export earnings were needed for debt repayment; imports were therefore cut to a minimum. These cutbacks were not reflected in the import statistics, which included equipment and supplies for continuing projects and commodity imports financed by foreign donors. They have, however, had a serious impact on the regular import budgets of Burma's state-owned corporations. Decreased budgets for imported industrial raw materials, components, and spare parts resulted in declining production of many products.

The declining industrial output and higher transportation costs have led to a sharply higher inflation rate. The consumer price index for Rangoon, which rose 5% to 7% annually in recent years, increased to more than 26% in FY 1986.

The mining sector employed 90,000 workers in 1987, which was 0.6% of the active labor force. Of these, 77,000 were employed by Government-owned mining companies. Mining accounted for 1.8% of the country's net output of goods and services. Public investment in the mining sector totaled $34 million in FY 1986.

PRODUCTION

During FY 1986, the mining sector produced 87% of the Government's target and the net value of that output increased 19%, according to the annual Government report to the legislature.[5] The value of nonfuel mining output at current prices was $159 million in FY 1986. The previous year's figures were revised sharply downward in the same source.[6] Crude oil value in 1987 was estimated at $140 million to $170 million, and natural gas value was estimated at over $80 million. The 9-month figures available for 1987 showed a strong downward trend for major metallic minerals, cement, and nitrogenous fertilizer.

Table 1.—Burma: Production of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity[2]	1983	1984	1985	1986	1987[p]
METALS					
Copper:					
Mine output, Cu content	4,200	12,000	16,700	11,368	17,312
Matte, gross weight	173	173	173	144	234
Iron and steel: Pig iron	15,200	7,764	--	--	--
Lead:					
Mine output, Pb content	23,146	21,937	21,935	18,156	27,132
Metal:					
Refined	7,636	6,996	9,585	5,359	3,985
Antimonial lead (18% to 20% Sb)	313	254	[e]300	299	305
Nickel:					
Mine output, Ni content[e]	20	20	20	20	20
Speiss, gross weight	80	80	80	86	[e]80
Silver, mine output thousand troy ounces	558	455	568	527	839
Tin, mine output, Sn content:					
Of tin concentrate	629	745	622	600	256
Of tin-tungsten concentrate	1,013	1,283	1,129	895	683
Total	1,642	2,028	1,751	1,495	939
Tungsten, mine output, W content:					
Of tungsten concentrate	235	216	171	102	25
Of tin-tungsten concentrate	695	880	774	613	468
Total	930	1,096	945	715	493
Zinc, mine output, Zn content	4,537	5,320	4,353	4,643	2,561
INDUSTRIAL MINERALS					
Barite[3]	9,989	9,967	8,100	8,149	17,273
Cement, hydraulic	334,685	311,179	477,000	433,811	389,605
Clays:[3]					
Ball clay	404	960	110	496	203
Bentonite	710	725	710	851	406
Fire clay[4]	[e]1,780	1,220	1,370	2,040	1,422
Industrial white clay	810	357	610	203	610
Feldspar[3]	[e]2,700	6,220	2,446	2,861	1,916
Graphite[3]	200	234	234	722	--
Gypsum[3]	34,278	27,580	38,594	38,889	23,135
Nitrogen: N content of ammonia[3]	53,900	56,916	125,795	133,130	117,501
Precious and semiprecious stones: Jadeite[3] kilograms	45,700	90,990	43,145	12,804	13,529
Salt[6] thousand tons	288	280	320	321	341
Stone:[3]					
Dolomite	4,400	1,305	2,383	5,253	5,952
Limestone, crushed and broken thousand tons	[r]1,247	1,210	1,541	1,329	1,411
Talc and related materials: Soapstone[3]	128	91	128	56	22

See footnotes at end of table.

Table 1.—Burma: Production of mineral commodities[1] —Continued

(Metric tons unless otherwise specified)

Commodity[2]	1983	1984	1985	1986	1987[p]
MINERAL FUELS AND RELATED MATERIALS					
Coal, lignite	34,500	44,232	43,000	43,848	45,700
Gas, natural:					
Gross[e] million cubic feet	20,000	26,000	34,000	40,000	[r]42,000
Marketed[3] do.	18,190	24,417	32,962	38,290	[e]40,000
Petroleum:					
Crude (gross wellhead)[3] thousand 42-gallon barrels	10,168	11,200	10,253	10,103	6,351
Refinery products[e] do.	7,000	8,000	8,000	7,500	5,800

[e]Estimated. [p]Preliminary.

[1]Table includes data available through June 14, 1988.

[2]In addition to the commodities listed, pottery clay, common sand, glass sand, other varieties of crude construction stone, and other varieties of gem stones are produced, but available information is inadequate to make reliable estimates of output levels.

[3]Data are for fiscal year beginning Apr. 1 of that stated.

[4]Includes fire clay powder.

[5]Computed at 46% of reported fertilizer production.

[6]Brine salt production as reported by the Burmese Government was as follows: 1983—200,944; 1984—81,166; 1985—44,508; 1986—52,084; and 1987—63,765.

[7]Reported figure.

TRADE

Exports of minerals and gem stones accounted for $31 million or 7.8% of commodity exports in FY 1985, the latest available figures. Provisional figures for FY 1986 increased to $39 million. The sales at the 23d Annual Gem Emporium declined from the 1985 record high of $9.3 million to $7.5 million in 1986. Dealer attendance at the 1986 sale was much lower because it was conducted in November instead of in the traditional month of February. Many dealers were unable to attend because they were preparing for the peak holiday sales season. Burmese officials may return the sale to February in light of the poor November results.

In FY 1986, Burma did not appear to achieve a significant improvement in export earnings, which began to decline in FY 1984. Provisional government statistics for FY 1986 showed exports of $407 million, but other sources estimated them to be about $330 million.[7] Because of declining prices, the value of Burma's major exports has declined 26% since 1981. Tin and tungsten prices declined 54% and 18%, respectively, during this period. Burma has been unable to diversify exports to any significant degree. Recently, seven commodities—beans, gem stones and jade, marine products, metallic ores, rice, rubber, and teak—accounted for 95% of export earnings. The effort to expand export items met with some success in such mineral commodities as liquefied petroleum gas (LPG), methanol, and urea. Although small at this time, they could increase significantly in the future.

COMMODITY REVIEW

METALS

Iron and Steel.—Production of steel grinding balls and truncated grinding cones began in 1987 at the No. 1 iron and steel plant at Anisakan. The initial output was to be 3,000 tons of 50-millimeter and 70-millimeter balls and cones for domestic mining needs. This grinding medium was formerly imported at considerable expenditure of foreign exchange.

The Ywama steelworks modernization was mostly completed by yearend FY 1986 when test runs of the new equipment were begun. According to a Government report,[8] expanded production of barbed wire, bars, nails, and sheets was to begin in FY 1987.

Lead and Zinc.—Expansion of No. 1 Mining Corp.'s ore concentration plant at the Bawdwin Mine complex from a capacity of 500 to 1,000 tons per day was reportedly completed in late FY 1986. Financial aid was provided by the Federal Republic of Germany. Test runs began at the plant in 1987. Copper matte, lead, nickel speiss, silver, and zinc concentrate produced by the complex have been exported for many years.

MINERAL FUELS

Natural Gas.—To alleviate the problems caused by declining oil production, the Government has been developing its gasfields as fast as financing and technology allow. Natural gas production has more than doubled since 1983. Gas is being substituted for fuel oil at new and existing factories and as feedstock for fertilizer and petrochemical plants. The main development during 1987 was Government-owned Myanma Oil Corp.'s (MOC) expansion of the Payagon Gasfield, 50 kilometers southwest of Rangoon. The International Development Association was supplying $63 million in credit toward the $200 million cost. Twelve new production wells and seven appraisal wells are to increase gas output by 35 million cubic feet per day. The project was to include a 40-centimeter pipeline to Rangoon, a basic gas distribution network to serve the capital, and pilot LPG and compressed natural gas plants. The field currently supplies 12 million cubic feet per day through a small pipeline to four industrial plants and three powerplants in the Rangoon area. A planned second phase would extend the pipeline to industries in Mon and Karen States east of Rangoon.[9]

Gas use will be further expanded by a Government plan to set up a 60-megawatt gas turbine power station at Thaketa, a suburb of Rangoon. The project is to be financed by a loan from Japan's Overseas Economic Cooperation Fund.

In addition to the LPG plant mentioned above, Petro-Chemical Industries Corp. completed an LPG plant that was begun in FY 1982. Production of 300,000 barrels per year of LPG was scheduled to begin in 1987.

Petroleum.—Declining energy supplies and spare parts shortages combined to hinder virtually all sectors of the Burmese economy except for the military. Burmese officials stated that energy production fell 20% in 1986. Overdrawing of wells was believed to be causing as much as a 30% infusion of water and mud into the wells' output. Another indication of the extent of the crude oil shortage was Burma's refinery utilization rate, which fell below 30% in FY 1986, the latest figure available. The main causes of the oil production decline were aging of the country's producing oilfields, shortages of spare parts and replacement equipment, and a lack of technology to develop the more complicated new oilfields or utilize secondary recovery methods at existing fields. In addition, a severe foreign-exchange shortage exacerbated the problem by making it unlikely for Burma to raise sufficient capital for equipment and technology to upgrade the fields. Much of the recent oilfield development has been done with foreign funding, mostly Japanese.

Several U.S. and other foreign oil companies held discussions with Ministry of Energy officials about participating in the exploration of Burma's onshore crude oil resources. Although discussions were apparently welcomed and several proposals submitted, no contracts were signed. The energy ministry, however, apparently remained interested in discussing foreign cooperation in exploring its offshore resources.

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[1]Physical scientist, Division of International Minerals.
[2]U.S. Embassy, Rangoon, Burma. State Dep. Airgram A-009, July 2, 1987, p. 8.
[3]The Burmese fiscal year begins Apr. 1 of the year stated.
[4]Where necessary, values have been converted from Burmese kyats (K) to U.S. dollars at the rate of K6.74 = US$1.00.
[5]Ministry of Planning and Finance. Report to the Pyithu Hluttaw on the Economic and Social Condition of the Socialist Republic of the Union of Burma for 1987-88. P. 117.
[6]Page 24 of work cited in footnote 5.
[7]Page 4 of work cited in footnote 2.
[8]Page 259 of work cited in footnote 5.
[9]Petroleum News. V. 18, No. 7, Oct. 1987, p. 7.

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